OLMSTED ENVIRONMENTAL SERVICES, INC
1992 Route 9 Garrison NY 10524
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Report Date: August 18, 2021

Report for: Margaret Sandercock
Law Offices
Goodfarb & Sandercock, LLP

Email: mbs@goodfarblaw.com

Prepared by: Edward Olmsted, CIH, CSP
New York State Mold Assessor 00026

Subject: Mold Inspection and Testing After Abatement
97 Green Street Apt #G21 Brooklyn, NY 11222

Inspection Dates: August 16 and 17, 2021

INTRODUCTION

Edward Olmsted, CIH, CSP conducted a mold inspection and testing in apartment G21 at 97 Green Street in Brooklyn, NY. The survey was done after removal of some flooring and wallboard in the rooms 1,2 and 3 and bathroom and laundry area. The attached diagram indicates the locations of the rooms. The inspections were done on August 16 and 17th 2021 after the abatement work was declared complete by the abatement contractor and ALC the monitoring firm. The demolition work did not include all of the materials agreed to in the scope of work. The survey included the following:

1. Visual and invasive inspection of the work area. This included removal of insulation panels left in place to inspect layers of wallboard beneath and removal of floor sheathing to inspect layers beneath;
2. Testing moisture levels;
3. Collecting surface samples using tape lift methods;
4. Collecting bulk samples for microscopic exam;
5. Collecting air samples for mold spores.

BACKGROUND

In October of 2019 a sprinkler head failed on the floor above apt G21, causing a catastrophic flood of unit G21. The water was standing on most floors and the floors, walls and ceilings were soaked for many days. A water restoration company was brought in but drying of surfaces had been delayed and moisture remained in materials for an extended period. Inspection and testing by Ed Olmsted, and ALC Environmental revealed mold growth present on wall surfaces and ceilings. The walls and ceilings include many layers of sheetrock, press wood, insulation matting, and foam board. The tenant reported that the water ran into the walls and was trapped in the ceilings and floors and the construction of

was multiple layers that would trap water. The mold abatement work was done by Servpro, a water mitigation and mold abatement contractor inside a containment area with HEPA air filtration devices to provide negative pressure. The work was monitored by ALC they performed inspection and testing. The work did not include all materials outlined and agreed to in the work scope. The wallboard between rooms 1 and 2 and the living room. And the ceilings in 1 and 2 were left in place. The wood raised floor was left in place in the bathroom and some of the sheetrock in the bathroom was left. Probes were not cut into the ceiling and walls in the living room. Discussions with ALC indicated that they reduced the scope of work because visible mold was not present. They also indicated that tests in the work area revealed low levels of mold spores in air. This survey was done after the demolition was done and ALC cleared the work.

SURVEY METHODS

The apartment was visually inspected and tape lifts were collected from remaining concrete slab and air samples were collected. The following summarizes the survey methods:

Mold Spores in Air

The air samples were collected using spore trap cassettes using a Buck air sampler manufactured by Zefon. The sampler was calibrated at 15 liters per minute using a flow meter calibrated by the manufacturer. The samples were collected over a period of 5 minutes. Levels of airborne mold spores measured with the Allergenco D cassettes represent total mold spores and are reported in fungal structures per cubic meter of air (FS/M3). This method using microscopic analysis of the air samples and it is not possible to differentiate between Penicillium and Aspergillus species. There are no regulatory standards or recommended standards for numerical levels of bioaerosols in air. Fungi are ubiquitous and can be measured in the air both indoors and outdoors. Mold spore levels can often change over time in any given location even under similar environmental conditions. As such, interpreting air-sampling results can be difficult. The rank order of mold genus and /or species of airborne mold indoors should generally reflect levels measured in the control outdoor air.

Moisture Levels

Moisture levels were measured using a Protimeter Surveymaster moisture meter, which was field tested using the 18 % field check device provided by the manufacturer. The presence of dampness was screened using the meter in scanning mode and where dampness was detected the area was further probed using the pin measurement, which measures in percent moisture. The Institute for Inspection Cleaning and Restoration Certification (IICRC) indicates that a moisture level above 17 % in wood or sheetrock is sufficient to support mold growth[1]. Levels above 20 % are sufficient to germinate spores in some species of mold resulting in fungal growth. Water intrusion is the principal risk factor for mold and bacterial growth as well as infestation by mites and insects.

[1] ANSI/IICRC S520; Standard and Reference Manual for Professional Mold Remediation; page 69; © 2008 Institute for Inspection Cleaning and Restoration

Tape Sample Analysis for Molds

Prestige Enviromicrobiology (Prestige) analyzed bulk and the tape lift samples by microscopic methods. Ed Olmsted analyzed all tape lift samples microscopically. Microscopic analysis of a bulk or tape lift sample detects the presence of spores, hyphae and fruiting bodies (conidiophores, sporangium, ascomata). This method confirms the presence of mold growth by identifying the reproductive, hyphael structures as well as spores. This method also identifies the molds to the genus level. The microscopic evaluation of a bulk and tape lift sample provides the best measure of the presence of mold growth.

RESULTS

The lab reports from Prestige Enviromicrobiology (Prestige) are attached. The following summarizes the survey results:

1. Table 1 provides a summary of results of tape lifts analyzed by Ed Olmsted.
2. Mold Spores in Air Four air samples were collected inside the apartment and one outside control air sample was also collected, which serves as a reference level for comparison to the bedroom and hallway samples.
    - **a.** Outside – The outside air sample was collected on the sidewalk in front of the building. The sample had a total of 7,600 fungal spores per cubic meter of air (fs/m3) and was dominated by basidiospores, ascospores and *Cladosporium.* One spore of *Chaetomium* and one pen-asp spore were detected. The outside air serves as a reference level for the indoor sample.
    - **b.** Room 1 - This sample had a total of 4,100 fs/m3 and was dominated by pen-asp spores at 1,800 fs/m3 which is well above the outdoor level. There were also elevated levels of *Chaetomium* at 780 fs/m3. This is indicative of mold growth or contamination present in the work area**.**
    - **c.** Room 2 - This sample had a total of 6,300 fs/m3 and was dominated by pen-asp spores at 4,600 fs/m3 which is well above the outdoor level. This is indicative of mold growth or contamination present in the work area**.**
    - **d.** Room 3 **-** This sample had a total of 8,700 fs/m3 and was dominated by pen-asp spores at 6,900 fs/m3 which is well above the outdoor level. There were also *Chaetomium* and *Stachybotrys* spores on the sample. This is indicative of mold growth or contamination present in the work area**.**
    - **e.** Bathroom - This sample had a total of 21,000 fs/m3 and was dominated by pen-asp spores at 19,000 fs/m3 which is well above the outdoor level. There were also elevated levels of *Stachybotrys* at 440 fs/m3. This is indicative of mold growth or contamination present in the work area**.**
    - **f.** Kitchen - This sample had a total of 3,000 fs/m3 and was dominated by pen-asp spores at 1,600 fs/m3 which is well above the outdoor level. This is indicative of mold growth or contamination present in the work area**.**
3. Room 1 – The outer layer of wallboard was removed from the walls and ceiling exposing the foam panels, which were left in place. Removal of the foam panels revealed visible mold on wallboard and the ceiling. There is insulation behind the foam board in some areas which also has mold growth along the top and bottom. A sample of the insulation, number 97G-9, was found to have growth of *Chaetomium*

and *Trichoderma.* Another sample from the insulation, number 97G-12, had light growth of *Chaetomium.* Two layers of wood flooring were left in place Removal of the upper layer of OSB revealed heavy mold growth on the underside of the OSB and on the fiberboard underlayment. Both layers of the wood test wet with a moisture meter and there is standing water under the wood. A sample from the underside of the floor oriented strand board (OSB), number 97G-7, had heavy growth of *Chaetomium* and *Acremonium.* The foam was removed from the ceiling revealed visible mold on the sheetrock above. A sample from the sheetrock confirmed the growth of *Chaetomium.* A sample from the insulation confirmed *Chaetomium* growth.

4. Bathroom – There is visible mold on the base of the sheetrock wall between the bathroom and living room. A tape lift sample, number 97G-1, had heavy growth of *Aspergillus.* The raised wood floor was left in place. A bulk sample from the wood, number 97G-6, had mycelium and hyphae indicating trace growth.
5. Room 2 – The wall between room 2 and the hall had visible mold between the sheetrock layer and wood finish layer. A sample, number 97G-4, had heavy growth of *Chaetomium, Acremonium, Aspergillus, Penicillium* and *Trichoderma.*

CONCLUSIONS AND RECOMMENDATIONS

This survey revealed elevated levels of mold spores in air throughout the apartment, which is indicative of mold colonization. Opening up floors, walls and ceilings revealed visible mold within the layers of material and on the insulation. The areas where mold growth has occurred is hidden in this apartment because water has been trapped behind foam, foil and insulation as well as behind plastic. It is impossible to predict where the moisture was trapped and where mold growth occurred. This apartment is currently not acceptable and mold abatement is not complete. In light of the findings of this survey original scope of work should be done as agreed. This scope of work was developed because of the likelihood of hidden mold. This includes removing the walls and completely in the rooms as indicated in the scope and removal of the flooring in room 1 and the raised floor in the bathroom. Inspection revealed some of the wood framing had visible mold and this must be exposed and cleaned. If additional mold is discovered during the demolition this too should be addressed. It is possible that after completing the scope of work air testing may not pass and the flooring in the kitchen or ceiling in the living room may require removal.
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Table 1
Tape lifts

LOCATION	RESULT
97G-1 base of the wall between the bathroom and living room	Spores, hyphae and conidiophores *Aspergillus* indicating growth
97G-2 wood deck above joists over hallway	No fungal structures
97G-3 ceiling wood deck over room 3	No fungal structures
97G-4 wall outside room 2	Ascospores, ascomata and hyphae of *Chaetomium* indicating mold growth
97G-5 wood floor underside of the OSB room 1	Ascospores, ascomata and hyphae of *Chaetomium* indicating mold growth
97G-12 insulation in room 1 wall	Chains of Acremonium and hyphae indicating growth
97G817-1 sheetrock ceiling above the blue foam panels	Ascospores, ascomata and hyphae of *Chaetomium* indicating growth
97G817-2 insulation room 1	Ascospores, ascomata and hyphae of *Chaetomium* indicating growth
97G817-3 wood framing studs in room 1	Ascospores, ascomata and hyphae of *Chaetomium* indicating growth

Prestige EnviroMicrobiology, Inc.

Analytical Test Report

Client: Olmsted Environmental Services Inc., 1992 Route 9, Garrison, NY 10524

Client Project/Name: 97 Green

Sample date: 8-16-2021

Submittal date: 8-16-2021

Samples submitted by: Edward Olmsted, CIH

Date analysis completed: August 17, 2021

Prestige report number: 210817-04

Microscopic Method (P001): Analysis of Allergenco Samples for Total Fungal Structures by Optical Microscopy

Prestige # Client sample ID Location	Air vol. (m^3)	% read	Presumptive fungal ID	Counts of fungal structures	Fungal structures/m^3	Percentage	Background rating
210817-04-022	0.075	25.5	ascospores	17	890	22%	
4257153			*Chaetomium*	15	780	19%	
Rm 1			hyphal fragments	7	370	9%	
			myxomycetes	3	160	4%	
			Nigrospora	1	52	1%	
			Pen/Asp-like	34	1,800	44%	
			rusts	1	52	1%	
					Total 4,100		3
210817-04-023	0.075	25.5	ascospores	7	370	6%	
4257151			basidiospores	4	210	3%	
Rm 2			*Chaetomium*	1	52	1%	
			Cladosporium	2	100	2%	
			Ganoderma	1	52	1%	
			hyphal fragments	8	420	7%	
			myxomycetes	1	52	1%	
			Nigrospora	1	52	1%	
			Pen/Asp-like	91	4,800	76%	
			Periconia	2	100	2%	
			Stachybotrys	1	52	1%	
					Total 6,300		4
210817-04-024	0.075	15.3	ascospores	3	260	1%	
4257148			basidiospores	1	87	<1%	
bathroom			*Chaetomium*	1	87	<1%	
			hyphal fragments	13	1,100	5%	
			Pen/Asp-like	217	19,000	90%	
			Stachybotrys	5	440	2%	
					Total 21,000		5

Prestige EnviroMicrobiology, Inc.

210817-04-025 4260534 Outside	0.075	25.5	ascospores basidiospores *Chaetomium* *Cladosporium* *Ganoderma* hyphal fragments myxomycetes Pen/Asp-like *Periconia* *Pithomyces* rusts *Torula* unknowns	38 66 1 24 2 5 1 1 1 1 1 1 1	2,000 3,500 52 1,300 100 260 52 52 52 52 52 52 52 Total 7,600	27% 46% 1% 17% 1% 3% 1% 1% 1% 1% 1% 1% 1%	1
210817-04-026 4257152 Rm 3	0.075	25.5	ascospores basidiospores *Chaetomium* *Cladosporium* *Ganoderma* hyphal fragments myxomycetes Pen/Asp-like *Pithomyces* rusts *Stachybotrys*	6 9 2 4 1 7 1 132 1 2 1	310 470 100 210 52 370 52 6,900 52 100 52 Total 8,700	4% 5% 1% 2% 1% 4% 1% 80% 1% 1% 1%	4
210817-04-027 4260544 Kitchen	0.075	25.5	ascospores basidiospores *Chaetomium* *Cladosporium* *Ganoderma* hyphal fragments Pen/Asp-like *Periconia* *Pithomyces* *Torula*	11 8 1 2 1 1 31 1 1 1	580 420 52 100 52 52 1,600 52 52 52 Total 3,000	19% 14% 2% 3% 2% 2% 53% 2% 2% 2%	4

Report approved: Theresa Lehman

Theresa Lehman, MPH, Lab Director

Technical Manager: _____

Chin S Yang, Ph.D.

Analyst: Theresa Lehman

1. The samples in this report were received in good, acceptable conditions. Prestige EnviroMicrobiology has not performed sample collection for the sample items listed in this report. Results relate only to the items tested.

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2. Spore trap samples are first scanned at 200x and then analyzed at 600x magnification.
3. Concentrations and percentages are rounded. Total percentage may not add up to 100% due to rounding. Percentage is for each group in total population. ND=not detected. NA=not applicable.
4. Background rating 1-5 (1 being the lowest and 5 the highest) indicates density of sample deposit. The higher the sample deposit is, the more likely some fungal structures are obscured. A "0" background indicates no trace was observed.
5. The detection limit of this analysis is one fungal colony, one bacterial colony or one fungal structure. The analytical sensitivities vary from analysis to analysis or by air volume. For calculation of your analytical sensitivities, please visit our webpage http://prestige-em.com/index-tech.htm or contact us by calling 856-767-8300 or by email info@Prestige-em.com.
6. For technical information on result interpretation, please visit www.Prestige-EM.com.

Prestige EnviroMicrobiology, Inc. Tel: 856-767-8300 Fax: 856-767-8305
242 Terrace Boulevard., Suite B-1, Voorhees, New Jersey 08043

Prestige Proj.#: 210817-04

P. 1 of 2

Chain-of-Custody and Analysis Request Form

Client name: OLMSTED ENVIRONMENTAL SERVICES Tel: 845 424 4077 Client project: 97 Green

Address 1992 ROUTE 9 GARRISON NY 10524 Fax: 845 424 3482 P.O.#:

E-mail: OLMSTED.MAC@MAC.COM Date sampled: August 16, 2021

Sample ID	Location or source	Sample type	Air vol (L)/ Area (inch²)	Water: potable or non-potable	Analysis requests code or description	Turnaround time	Notes or special instructions
97G-9	Insulation on base of wall behind foam – room 1	Bulk			P003	Standard	Next day @ 12 pm
97G-6	Bathroom floor under HW heater	Bulk			P003	Standard	
97G-7	Room 1 wood floor	Bulk			P003	Standard	
4257153	Rm 1	air	75		P001	Standard	
4257151	Rm 2	air	75		P001	Standard	
4257148	bathroom	air	75		P001	Standard	
4260534	Outside	air	75		P001	Standard	
4257152	Rm 3	air	75		P001	Standard	
4260544	kitchen	air	75		P001	Standard	

Contact name: Edward Olmsted Submitted by: (sign & print) Edward Olmsted Date submitted: August 16, 2021

Received by: (sign & print) Li-Yang Julie Yang Date & time received: 8/17/21 10:00AM Delivered by: Fedex, UPS, USPO, in person

(For lab use only) Processed by: Sample type: Date:

Prestige EnviroMicrobiology, Inc. Tel: 856-767-8300 Fax: 856-767-8305 Prestige Proj.#: 21081-20L
242 Terrace Boulevard., Suite B-1, Voorhees, New Jersey 08043 P. 2 of 2

Chain-of-Custody and Analysis Request Form

Client name: OLMSTED ENVIRONMENTAL SERVICES Tel: 845 424 4077 Client project: 97 Green

Address 1992 ROUTE 9 GARRISON NY 10524 Fax: 845 424 3482 P.O.#:

E-mail: OLMSTED.MAC@MAC.COM Date sampled: August 16, 2021

Sample ID	Location or source	Sample type	Air vol (L)/ Area (inch²)	Water: potable or non-potable	Analysis requests code or description	Turnaround time	Notes or special instructions
97G-3	Ceiling wood deck	Tape			P003	Standard	
97G-1	Bathroom wall	Tape			P003		
97G-4	Room 2 wall	Tape			P003		
96G-12	Insulation room 1	Tape			P003		

Contact name: Edward Olmsted Submitted by: (sign & print) Date submitted: August 16, 2021

Received by: (sign & print) Date & time received: 8/17/21 10:00 AM Delivered by: Fedex, UPS, USPO, in person

(For lab use only) Processed by: Sample type: Date:

Prestige EnviroMicrobiology, Inc.

Analytical Test Report

Client: Olmsted Environmental Services Inc., 1992 Route 9, Garrison, NY 10524

Client Project/Name: 97 Green

Sample date: 8-16-2021

Submittal date: 8-16-2021

Samples submitted by: Edward Olmsted, CIH

Date analysis completed: August 17, 2021

Prestige report number: 210817-04

Microscopic Method (P003): Analysis of Bulk Samples for Fungi by Optical Microscopy

Prestige # Client sample ID Location	Sample dimension	Fungal ID	Fungal structures observed	Fungal density	Notes
210817-04-019 97G-9 Insulation on base of wall behind foam – room 1	Irregular	*Aspergillus* *Chaetomium* *Trichoderma*	spores, conidiophores, hyphae ascospores, ascomata, hyphae spores, conidiophores, hyphae	<1 5 1	Fungal growth, growth coverage approximately 95%, some fungal structures in fragments; mites, insects and their fecal matter observed.
210817-04-020 97G-6 Bathroom floor under HW heater	Irregular	unknown fungi	hyphae/mycelia	<1	Light fungal growth, growth coverage approximately 1%.
210817-04-021 97G-7 Room 1 wood floor	Irregular	*Acremonium/Gliomastix* *Chaetomium*	spores, conidiophores, hyphae ascospores, ascomata, hyphae	2 5	Fungal growth, growth coverage approximately 95%, some fungal structures in fragments.

Microscopic Method (P003): Analysis of Tape-Lift Samples for Fungi by Optical Microscopy

Prestige # Client sample ID Location	Sample dimension	Fungal ID	Fungal structures observed	Fungal density	Notes
210817-04-028 97G-3 Ceiling wood deck	3/4" x 1 3/4"	ND	No fungal growth structures observed	NA	Mostly dust and debris, no signs of fungal growth or contamination.
210817-04-029 97G-1 Bathroom wall	3/4" x 1 3/4"	*Aspergillus* *Stachybotrys* unknown fungi	spores, conidiophores, hyphae loose spores hyphae/mycelia	5 NA 3	Fungal growth, some fungal structures in fragments; mites, insects and their fecal matter observed.
210817-04-030 97G-4 Room 2 wall	3/4" x 1 3/4"	*Acremonium/Gliomastix* *Aspergillus* *Chaetomium* *Penicillium* *Trichoderma*	spores, conidiophores, hyphae spores, conidiophores, hyphae ascospores, ascomata, hyphae spores, conidiophores, hyphae spores, conidiophores, hyphae	3 1 5 <1 1	Fungal growth, some fungal structures in fragments; mites, insects and their fecal matter observed.
210817-04-031 97G-12 Insulation room 1	1/2" x 2"	Asp/Pen-like *Chaetomium*	spores in clusters ascospores, ascomata, hyphae	NA <1	Light fungal growth, some fungal structures in fragments.

Prestige EnviroMicrobiology, Inc.

Report approved: _____
Theresa Lehman, MPH, Lab Director

Technical Manager: _____
Chin S Yang, Ph.D.

Analyst: Ching-Yi Tsai, Ph.D.

1. The samples in this report were received in good, acceptable conditions. Prestige EnviroMicrobiology has not performed sample collection for the sample items listed in this report. Results relate only to the items tested.
2. Fungal density rating 1-5 (1 being the lowest and 5 the highest) indicates density of fungal growth structures observed. No fungal density is provided for loose spores, hyphal fragments and other structures. (<1) is used to indicate a light fungal density. NA=not applicable. ND=not detected.
3. Growth coverage, if provided, is based on estimation of the entire bulk sample surface on all sides.
4. Fungal contamination is noted when an analyst, at times during sample analysis, can differentiate the unusual compositions (types or numbers) of fungal spores or structures from background fungal compositions.
5. For more information on the results and their interpretation, please visit our website www.prestige-em.com.

ROOM 1 CEILING behind foam panels that were removed during this survey

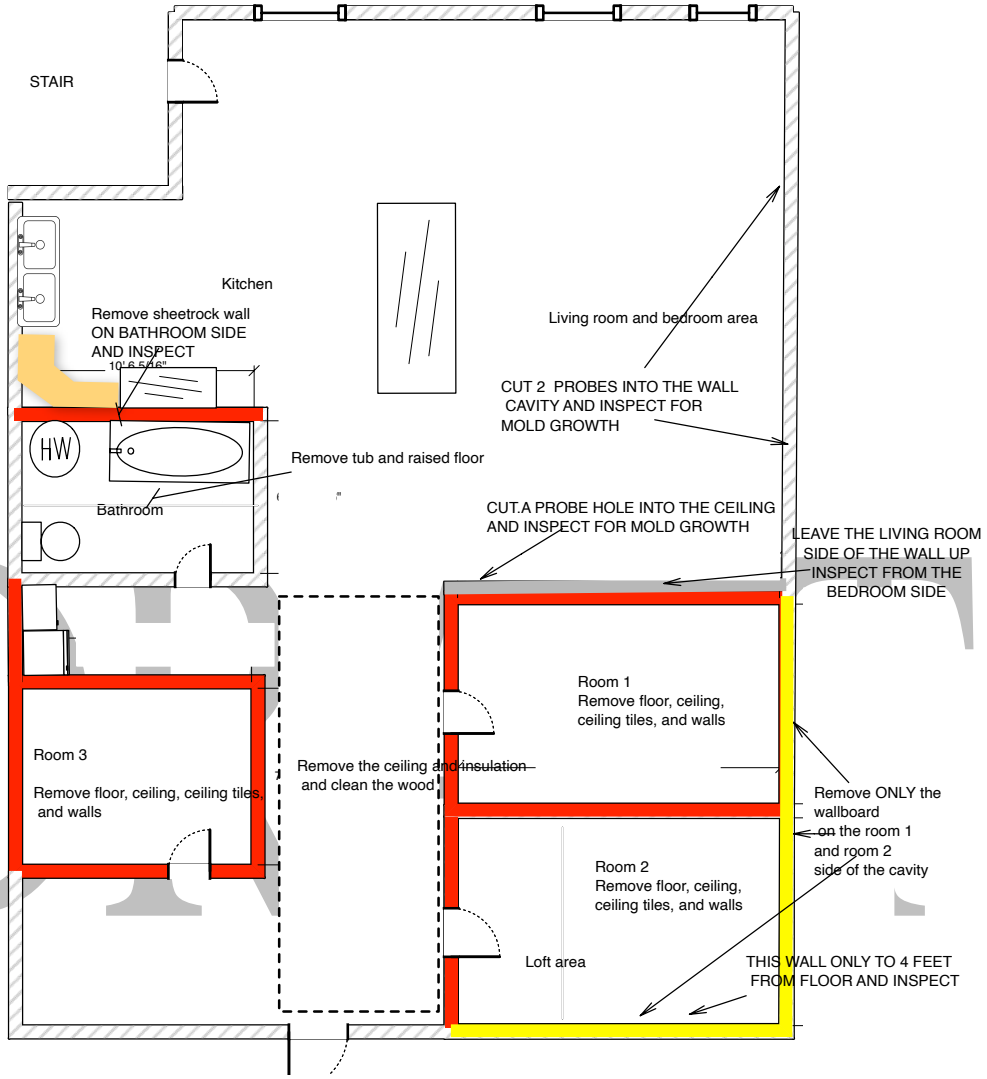
Bathroom wallboard has mold in the wall cavity

Wall outside room 2 has visible mold

Underside of the OSB floor and the press wood subfloor are wet and moldy

There is water under the press wood subfloor

Wet and moldy subfloor


STAIR
Kitchen
Remove sheetrock wall
ON BATHROOM SIDE
AND INSPECT
Living room and bedroom area
CUT 2 PROBES INTO THE WALL
CAVITY AND INSPECT FOR
MOLD GROWTH
HW
Remove tub and raised floor
Bathroom
CUT.A PROBE HOLE INTO THE CEILING
AND INSPECT FOR MOLD GROWTH
LEAVE THE LIVING ROOM
SIDE OF THE WALL UP
INSPECT FROM THE
BEDROOM SIDE
Room 1
Remove floor, ceiling,
ceiling tiles, and walls
Room 3
Remove floor, ceiling, ceiling tiles,
and walls
Remove the ceiling and insulation
and clean the wood
Remove ONLY the
wallboard
on the room 1
and room 2
side of the cavity
Room 2
Remove floor, ceiling,
ceiling tiles, and walls
Loft area
THIS WALL ONLY TO 4 FEET
FROM FLOOR AND INSPECT